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21 August 1970

MEMORANDUM FOR: Chief, Support Services Staff

SUBJECT   : Research and Development Proposal

The Agency must plan to discontinue using paper records. To do so it must develop and use a new medium for the storage and retrieval of information and administrative material.

The current technology is offering various devices in these areas as alternate storage and retrieval systems: Microfilming, Computers, Videotape files, and Mass Memory Laser Devices.

Unfortunately, the input and conversion requirements for each is slow and costly. Further, their output equipment and product is disappointingly far behind the electronic talent of the computer data processors. The output is limited in scope, poor in quality, stilted in content, handcuffed by pre-programmed formats, and costly in time and funds. Each of these technological marvels have limited flexibility and require additional manpower and new office systems. Finally, they usually cause disruptions of established, understood, and productive operations. Sometimes the change can be made, often it cannot be tolerated for reasons of sensitive operational needs, continuity, or for strong personal preferences.

Consequently, the old major paper systems continue despite the considerable activity in new areas using these modern techniques. Therefore, in order to convert the old work-horse paper record systems it is suggested that research and development concentrate on the equipment to meet the input and output needs of the users.

    a. Improve microfilming input -- both equipment and techniques. Ability to update and correct film image is needed. Faster paper transports are needed in rotary cameras with ability to reverse and flip paper to film reverse sides. Film review must await film developing, and takes as much time as the original filming. View finders may be possible.

    b. Improve microfilming output -- today's readers are very poor. The viewing device should accept film, fiche, and apeture cards. Because of the increasing use of Computer Output Microfilm (COM) we should

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combine microfilm readers and computer remote termi-
nals. Microfilm readers and reader-printers must be
sharper even if we have to transmit it like a Tele-
vision image rather than the usual method of project-
ing light through the film. To complicate that
improvement requirement we also have the need for
less expensive reader units to increase the number
of users and build up acceptance.

c. In the computer systems we must improve their ability
to handle the input of old documents as well as their
retrieval and output. This should be feasible if no
processing of its data content is required. Agency
use of optical scanning devices needs specialized
study if we are to use them to the fullest potential.

d. Input into video-tape files is slow and the large
size tape records loses some reduction benefits.
The image on the video tape document reader vibrates
and is a far cry from the instant video replays on
television.

e. Today the new information storage and retrieval systems
being created are designed to use today's microform and
computer equipment. The image and data compaction in
microfilm and computers today is not enough for tomorrow.
For document images the super microfilming systems (NCR)
and equipment (Sylvania) must be extended. For machine-
language data the use of mass memory laser beam devices
(Unicon 620) can handle 3 computers and a library of
ten thousand tapes. These areas must have greater
developments soon if we are to keep ahead of the inevi-
table growth of machine data.

Study of these devices and development of systems and proposals for
their use in the Agency has enormous potential benefits and will do much
in the struggle to move us away from our paper oriented operations.

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Chief
Records Administration Branch

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